

## A HERETOFORE UNDESCRIBED METEORIC STONE FROM KANSAS CITY, MISSOURI.<sup>1</sup>

By GEORGE P. MERRILL,

*Head Curator of Geology, United States National Museum.*

The stone described below was first brought to the attention of the United States National Museum in October, 1917, by Mr. Edward Butts, curator of the Daniel B. Dyer Museum, of Kansas City, Missouri, who forwarded a small fragment for identification. Subsequent correspondence led to the forwarding of the entire stone to Washington for the purpose of making a cast and for description of the occurrence and its lithologic character. The history of the stone as given by Mr. Butts is as follows: It was found by a Mr. C. C. Frisby, who, in 1903, was working a stone quarry, now abandoned, at the corner of Twenty-fourth Street and Oakley Avenue, within the corporate limits of Kansas City. According to his statement, it lay some 6 feet below the surface, having penetrated  $3\frac{1}{2}$  feet of dirt and soil and  $2\frac{1}{2}$  feet of shaly limestone, coming to rest about 6 inches above the solid ledge. Although the meteoric nature of the find was suspected, no record seems to have been made of its finding, and inquiries made by Mr. Butts fail to bring to light any conclusive information on the subject. A Mr. Whiting, who had lived within 100 feet of the spot for the past 25 years, had no knowledge of a fall in the vicinity, nor had a Mr. King, who had lived for 33 years about a fourth of a mile away. From its general appearance one can only surmise that it belongs to an old and unrecorded fall.

It may be well to note, however, that in the Transactions of the St. Louis Academy of Science for December, 1875, Prof. J. C. Broadhead described the flight of a meteorite over eastern Nebraska and northwest Missouri, the stone traveling in a general southeasterly direction and becoming disrupted with the usual explosive accompaniments in the vicinity of St. Joseph, some 50 miles north of Kansas City, whence it passed onward and was lost to sight. As the directions mentioned would carry the main mass to the east of Kansas City, and as, moreover, the stone here being described must have traveled for a very considerable distance as a nearly complete

<sup>1</sup> Museum Catalogue, No. 583.

individual (it is plainly not a fragment), it seems more than doubtful if there is any connection between the phenomena described by Broadhead and this particular fall.

On casual inspection the stone resembles an ordinary decomposed boulder of basic igneous rock, much oxidized, cracked, and somewhat exfoliated (see pls. 1 and 2). Closer inspection, however, shows still remaining traces here and there of fusion crusts, which gathered in thicker blebs and drops on what was plainly the rear of the stone in its flight through the atmosphere. These are distinctly shown in the lower portion of plate 2. A polished surface of a fragment removed from the already broken portion at the upper left of figure 2 shows a texture as fine, firm, and hard as that of the stone of Estacado, Texas. The color is dark-brown gray and the indistinct chondrules much darker. Thin sections under the microscope show it to be a crystalline spherulitic chondrite, consisting essentially of olivine and enstatite with the usual sprinkling of metal and sulphide, the metallic particles being small and quite inconspicuous excepting when a polished surface is viewed in reflected light. Occasional small, colorless particles showing an indistinct twin banding may be feldspathic. Oxidation has proceeded too far in the fragment available for study to make a chemical analysis seem worth the while. It was hoped the holders of the stone would permit its being cut to sufficient depth to yield less oxidized material. This, however, they are averse to doing.

This stone when received weighed 34,500 grams. This, allowing 1,500 grams for the fragments lost through breaking and exfoliation, gives an approximate original weight of 36 kilograms for the entire mass. The dimensions are 36.5 cm. by 33 cm. by 20.5 cm. It will be known as the Kansas City meteorite, the fourth *stone* found within the limits of the state.<sup>1</sup>

<sup>1</sup> I find the following in the American Journal of Science for 1876, "On the fall of a Meteorite in Kansas City, Missouri, June, 1876, by John D. Parker (letter to Editors dated Kansas City, Mo., Aug. 2, 1876). On June 25, 1876, between the hours of 9 and 10 in the morning, a small meteorite fell upon the tin roof of Mr. Isaac Whittaker's business house, No. 556 Main Street, Kansas City, Mo. The meteorite came down with sufficient force to cut a hole in the tin roof on the front part of the house near an open window, but not passing entirely through the tin, it bounded back a few feet and lay on the roof. Mrs. Baker, who occupies rooms in the front part of the house in the second story, and Mrs. Whittaker, were standing near the window when the meteorite fell, and heard the sharp concussion when it struck the roof. Mrs. Baker immediately picked up the meteorite as it lay near her on the roof, but dropped it again, finding it too hot to retain it in her hand. The meteorite is a plano-convex specimen, about  $1\frac{3}{4}$  inches in diameter and about  $\frac{3}{8}$  of an inch in thickness. The outside or convex surface possesses the usual crusted appearance, while the inside or plane surface differs from ordinary meteorites in possessing the appearance of sulphuret of iron, subjected to some degree of heat, instead of nickeliferous iron. One might easily infer that the meteorite was shaled off from a large bolide that passed over the city at that time. As it fell in the city, I have named it the Kansas City Meteorite. It has not been subjected to chemical analysis."

As nothing further has been learned regarding the above, and as, moreover, the meteoric nature of the object would seem to be at least doubtful, the name given it by Mr. Parker is not to be found in existing literature and may well be preempted, to use a mining term, in favor of the present fall.